

## RAVAGES OF BLIGHT.

## MEETING OF THE BOARD OF AGRICULTURE AND FORESTRY FRIDAY.

Commissioner Marsden's Report on the Different Blights and Insect Pests.

The board of agriculture and forestry met Friday afternoon at the executive building. There were present Messrs. W. G. Irwin, A. Herbert, John Ena, Commissioner Marsden and the Hon. J. A. King, minister of the interior.

A communication was read from Prof. Koebele. The professor offered his services to the board for the sum of \$3000 a year. The offer was accepted conditionally—provided the government and Planter's company agreed to bear the expense.

The following interesting report of Commissioner Marsden was read and ordered printed:

His Excellency J. A. KING, President of the Bureau of Agriculture and Forestry.

SIR: I have the honor to submit for your consideration the following report on the different blights and insect pests, that are so seriously injuring the vegetation of these islands. One of the most injurious is a brown beetle, a species of *Scarabaeidae*, which there is every reason to believe was imported from Japan. The ravages of this beetle are truly alarming. At first it seemed to confine its attention to the young and tender leaves of the rose bush, but as its numbers increased so did its appetite. It takes in its bill of fare, orange, avocado pear, bananas, grape-vines, besides many ornamental trees and shrubs. Even the hard, flinty leaves of some of the palms do not escape. Nothing has been devised that has had any success in diminishing the numbers of this beetle. It only works at night and disappears in the daytime. Many thousands are caught every night, but their numbers seem to be continually on the increase. It is only a question of time, (even with the most stringent regulations) when this beetle will make its way to the other islands. It penetrates into the houses after the lights are lit, and nothing is more likely, than sooner or later, some of them will be carried in freight to the other islands. No account has as yet been heard of this beetle attacking sugar cane, but it seems likely (judging from past experiences), that the sugar cane will be attacked. If this beetle once gets an appetite for young cane, our planters will suffer great loss. There seems to be no possible way to get rid of this destructive beetle, except by introducing an enemy that will prey upon it. It is possible to protect individual plants by dusting the leaves with poisonous powders, but that does not destroy the beetle, he simply goes to some other plant and devours it. A consignment of toads from California is expected which will no doubt prey upon the beetle, but from the past experience of those people who have brought toads to this country, it is doubtful if they will thrive and increase here. Your commissioner has sent some of these beetles with several other specimens of blight and insects to Professor C. V. Riley, Chief Entomologist of the U. S. State Department of Agriculture at Washington, D. C., with a letter asking if the department has any knowledge of any night flying birds, that would be likely to prey upon the beetle. The reply will be awaited with much interest. As there seems to be no doubt but that we are indebted to Japan for this destructive insect, and as the Japanese say that in their country it does not do anything like the damage it does here, it seems probable that an enemy exists there, which was not brought here with the beetle. In what form this enemy may be, whether a bird, reptile or parasite, only an examination of that country can determine.

Another destructive pest, is the white cottony blight (*Pulvinaria psidii* maskell). This blight is very injurious to our citrus trees. It also attacks the mango, breadfruit, avocado pears and many ornamental trees and shrubs. It also attacks the coffee tree, and is harder to kill by spraying than the old coffee blight, that has been known for many years in the coffee districts of these islands. The *Pulvinaria* if once introduced into the coffee districts will be a severe check to any enterprise in coffee planting, as it will entirely prevent the coffee tree from bearing, unless the trees are subjected to continual spraying, which would prove so costly, as to render the industry unprofitable, and although the regulation of the bureau is very strict, it is certain sooner or later to be evaded by some unscrupulous persons (who think more of a little personal gratification, than the welfare of the community) smuggling infected plants to the other islands.

One small cottony cell of the *Pulvinaria* concealed among the leaves of a plant would be quite enough to infect a whole district, as each cell contains hundreds of eggs which soon hatch, and the young insects (which are almost invisible to the naked eye) roam over the plant and attach themselves to the leaves, buds and fruit, and in less than a week mature and lay thousands of eggs, which soon hatch and spread to other plants. They also descend to the roots and multiply there. It is only by continual spray-

ing that individual trees can be kept in anything like a healthy condition. A tree can be sprayed with the best known compound, and every vestige of the blight destroyed, and in less than ten days the blight will be seen again, necessitating a re-spraying of the tree. Many plans have been tried to keep the blight from ascending the trunks of trees, but without avail. On trees that have had their trunks painted with a sticky substance, the blight has been found adhering to the windward side, proving that the blight moves with and by the wind.

The next in order is the well-known coffee blight, (*Dactylopius*), a greenish insect, that also spins a cottony cell in which to lay its eggs. This blight is a troublesome pest to the coffee grower, and is readily distinguished from the *Pulvinaria* which, on being crushed, gives a dark red chocolate color, while the *Dactylopius* gives a greenish yellow color. The young of this blight are not unlike the young of the *Pulvinaria*, except in color; like them they are almost too small to be seen by the unaided eye. They also attack the leaves and bark of many trees and plants, and the mature insects with their cottony cells full of eggs, are often seen hanging in great clusters from the bark and leaves of the trees they effect. By spraying they can be kept under to some extent and in private gardens where there are but comparatively few trees, it is not a difficult matter to keep the trees clear of this blight, but on a coffee plantation, where there are thousands of trees, it is a difficult matter to keep the trees clean and make the enterprise profitable. If the trees are not kept clean, then a diminished crop is the result, and permanent damage done to the trees. On the other hand, the cost of spraying is large and will nearly eat up the entire profits. Some planters who have set out plantations of young coffee trees on Hawaii, state that as yet no blight has made its appearance on their trees. I sincerely hope it may never get there, but it is almost certain that it will reach every district where coffee is grown if means are not found to entirely eradicate it. The existence of this blight on the islands of Oahu, Molokai, Maui, Hawaii and Kauai, to say nothing of the probability of the *Pulvinaria* which I consider a much worse blight, spreading to all the islands will act as a strong deterrent against enterprise in the starting of new coffee plantations, and may possibly render unprofitable those plantations already established.

The next, though not by any means least, is the cane borer—*Sphenophorus Obscurus*. Probably there is greater loss in one year by the ravages of this insect than by all other pests in ten years, but fortunately the borer does not take it all. He leaves something for the poor planter. The destruction of this insect would mean a great deal for the sugar industry of these islands. It is not only the quantity of cane destroyed each year by the borer, which in itself amounts to a large sum, but it is imperative on the planter, in order to keep the ravages of the borer within bounds, to burn off the trash as soon as possible after the cane is cut, in order to destroy the great quantity of borers that are left in the tops and dead cane. This method no doubt destroys great numbers of the borer, both in the beetle and larva stage, but at the same time it destroys an enormous quantity of vegetable matter, that by right should be plowed into the land, and it would be, if it were not for the borer. Our sugar lands are surely losing much of their fertility, necessitating the employment each year of increasing quantities of costly fertilizers. Much of this could be avoided if it were not for the borer. The benefits of plowing in the trash are not overrated; it has been tried, and the result has been very satisfactory as regards the growth of cane, but not so in regard to the borer, as the cane on such fields suffered more than other fields that had been burnt off. This insect also attacks the cocoon and many other palms; it also infests the banana.

There are several other kinds of pests affecting the trees on this island. A red scale is found on the ironwood and other trees. This scale is a long, narrow scale that adheres closely to the young stems of the trees, but as yet does not seem to affect them seriously. I have had specimens of this scale sent to me from Mapulehu, Molokai, where it is found on several kinds of trees, and is said to have been taken there from Honolulu about two years since. A different kind of scale—red when young, and turning black when mature—has been found in several gardens in Honolulu. The young insects that form these scales are very small, and after emerging from under the parent scale, where they are hatched, wander over the leaf until they find a suitable spot when they insert their beak and absorb the sap. In a few days a hard, protecting scale or armor is formed over the back of the insect, under which, in the case of the female insect, the eggs are laid and hatched.

These scales are difficult to kill by spraying unless it is repeated every day or so for a week or ten days. The hard shell of the scale adheres so closely to the bark that it is difficult for the wash to get underneath and kill the insect. The young, before the scale is formed, are easily killed by a resin wash, or kerosene emulsion, and soon after all the young are hatched, the old scales die and fall off.

These scales are no doubt the same as the red and black scales so prevalent in California, and have probably been imported from there. Late newspapers from California give glowing accounts of the good work Prof. Ribell's steel-colored ladybird is doing in eradicating these scales.

Another destructive insect is the large black carpenter bee. This insect is not content with honeycombing our houses, but is attacking and boring into our fruit trees. A great many of these bees are killed every year, still there seems to be as many as ever. There surely must be an enemy existing somewhere that would keep down this insect. Its destruction would be hailed with joy by every house-owner in the country. The conclusion forced upon us regarding the many blight and insect pests on these islands is that, to get rid of any one or all of them, it will be necessary to introduce the natural enemies of each and every pest. No artificial treatment, such as spraying or by the hydrocyanic acid gas method, will rid this country of the blight and insect pests that are now firmly established

here. Artificial means are at best only temporary expedients, and have to be continually applied in order to keep the pests in check. Individual trees may be kept clean and healthy by continual application; but unless this is done, the blight soon returns and is as numerous as ever. Your commissioner has had some correspondence (which has been published) with Professor Albert Koebele, of Alameda, California, on the subject of introducing into these islands such parasites and predaceous insects that are the natural enemies of the several blights and insect pests that are such a menace to our agriculture. The result is, that Professor Koebele offers his services as entomologist for the term of three years, that time being necessary for the proper searching of the different countries that will have to be visited for the natural enemies of the blight and insect pests that are prevalent in this country. Mr. Koebele will require a salary of \$3000 per annum, out of which he will defray his own hotel bills, other expenses such as freights, railway and ocean fares. Materials, etc., will have to be furnished outside of salary, and are estimated to not exceed \$2000 per annum. The whole cost for three years will therefore not exceed \$15,000. It is of the utmost importance that this work be entrusted to none other than a skilled entomologist, as Mr. Koebele said in one of his letters, the life, history and habits of each parasite and predaceous insect must be studied, and the greatest care exercised that such insects as are sent are free from their own particular parasites, as it is well known that most of the predaceous insects and parasites have their own particular parasites which keeps them in check. The most brilliant example of Mr. Koebele's work was the searching out and discovering of the Australian ladybug (*Vedalia Cardinatis*) and its introduction into California. The following extracts from Bulletin No. 54 of the state board of horticulture will show what good work was done in California by the *Vedalia*:

"But for the timely arrest and practical extermination of the cottony cushion scale, the final results of its devastation would have been incalculable. The damage caused by its ravages amounted to millions of dollars, and the wisest heads predicted that unless some sure cure as preventive should be secured, the time was not far distant when our beautiful and fruitful orchards would become barley fields, and the old time business of pasturing the lands with sheep and cattle would soon return. We had heard that there was a parasite in Australia that had almost entirely exterminated the cottony cushion scale, and it was to get these parasites that Mr. Koebele was sent to Australia. The parasite was known as the *Leptopoda*, a minute fly that punctured the scale, laid its egg, which hatched out into a grub that made its meal of the scale, changed into a fly, to again repeat its work."

Mr. Albert Koebele left San Francisco for Australia on August 20th, 1888, and arrived at his destination in due season. He immediately sent a supply of the *Leptopoda* to this country, which were duly taken care of on their arrival. In the meantime Mr. Koebele went to work to thoroughly investigate the scales, their parasites and their workings, and was not long in discovering what our Australian friends had not done, that the "Boss" scale destroyer was an entirely different kind of parasite. It was the ladybird, the *Vedalia Cardinatis*, he found to be the principal enemy of the cottony cushion scale, and he was not long in dropping Mr. Fly and making the acquaintance of her ladyship Miss *Vedalia Cardinatis*. He captured several colonies of beetles and their larvae. The first importation reached here November 30th, another December 25th, 1888, and still another January 24th, 1889. These colonies were sent to the Wolfskill orchard in Los Angeles, and Dobbins and Chapman's orchards at San Gabriel, under the care of Professor D. W. Coquillett, of the entomological staff, department of agriculture. They soon multiplied and increased something after the form of a geometrical progression. Mr. Wolfskill and his foreman, Mr. Alexander Crow, who knew all the time "that there must be such an enemy in Australia," together with Professor Coquillett, distributed thousands to the anxious orchardists, who, hearing of their wonderful work, flocked in to get them. The same work was going on at the ranch of Colonel G. R. Dobbins, at San Gabriel, where the colonel and his help gave their entire time to making up and distributing colonies to all who came for them, and they came from far and near. The work of the *Vedalia* in Honolulu is too well known to need any account in this report. Suffice to say that the town was cleared of the cottony cushion scale by the little ladybird.

A few of the *Vedalias* were brought in a small box and let loose. In a few weeks time the trees were swarming with them, and the cottony cushion scale disappeared like magic. Another instance of Mr. Koebele's skill in discovering the natural enemies of scale insects was his finding out and importing to California a different ladybird, the *orebus chalybeus*, or steel-colored ladybird. This insect is doing wonders in destroying the red scale that has been such a pest to the citrus fruit growers of California. A great many thousands of dollars have been spent by the orchardists in their efforts to get rid of this pest by spraying and gas treatment, and have only succeeded in keeping it partially in check now. The little steel colored ladybird is doing the work for nothing and doing it well. That parasites may be found for all our blights and insect pests is reasonably certain if the work is entrusted to competent hands, and in Professor Koebele we will find a gentleman skilled in entomology, an indefatigable worker who will spare no efforts to attain success if the work is entrusted to his hands, and I would urge upon your honorable body to devise ways and means to provide funds in order to secure Professor Koebele's services. In this connection I would suggest that the public be invited to contribute a portion of the sum needed. I am of the opinion, from the offers of financial assistance already received, that one half the amount (\$7500) would be contributed by those interested in the cultivation of coffee, sugar, fruits, etc., and the government should be asked to appropriate a like amount, in order to relieve the country of the many pests

that weigh so heavily upon our agriculture.

Respectfully submitted,  
J. MARSDEN,  
Commissioner of Agriculture and Forestry.

## HAWAII ABROAD.

## The Influence of the "Paradise of the Pacific" in Other Lands.

The Paradise of the Pacific for August is out. It contains the usual interesting matter relating to the Hawaiian islands, and is filled with special articles on "The Mid-Pacific Paradise" which will do much good abroad. From a large number of letters received by the editor of that journal are published the following, which show the appreciation of foreigners of this typical Hawaiian publication:

TACOMA CHAMBER OF COMMERCE, TACOMA, WASHINGTON.  
August 26, 1893.

MR. FRANK GODFREY, editor, Paradise of the Pacific, Honolulu, H.I.:

MY DEAR SIR: I have the pleasure to acknowledge No. 7, Vol. 6, of your valued publication with notice that it would be mailed to this office regularly and gratuitously.

It will be placed in a conspicuous position on our reading table, where members may see it, and I know they will read it with deep interest, as Tacoma expects in the near future to do a good deal of trading with your beautiful city.

Kindly accept, with the compliments of this chamber, the Tacoma Columbian souvenir, which I have mailed under another cover.

With best wishes,  
Yours very sincerely,  
SAMUEL COLLYER, Secretary.

P.S.—I would be glad to furnish you with a letter occasionally from Tacoma if you would like to have one.

CALIFORNIA WIRE WORKS, SAN FRANCISCO, CAL.  
August 24, 1893.

FRANK GODFREY, Esq., editor, Paradise of the Pacific, Honolulu:

DEAR SIR: I take great pleasure in acknowledging the receipt of the Paradise of the Pacific, which you have so kindly sent me for some time past.

Many of our visitors from the east have read it, and it has undoubtedly influenced them in making a visit to these very delightful islands.

Very sincerely,  
A. F. HALLIDIE.

## An Up-to-Date Soliloquy.

[A fragment in a lady's handwriting, picked up last week on the Members' Lawn at Sandown.]

To paint, or not to paint? That is the question:

Whether 'tis better on one's cheeks to suffer

The marks inflicted by a wearing season,

Or to take steps against increasing paleness,

And, with the rouge-pot, end it? To paint—to rouge—

That's all; and by a simple smear to mask

Time's onset, and to change the pasty hue

Our flesh is heir to—'tis a consummation

Devoutly to be wish'd. To paint—to rouge—

To rouge? Perchance to daub—aye, there's the rub;

For, of that simple smear, the mess some make

Must give us pause, and bid us hesitate

Ere we supply ourselves with new complexion.

For who would wear the marks of dining out;

Of crowded balls, of visits to the opera;

Of "smart" reunions and sleep curtail'd;

When she herself might bring youth's roses back

With a soft hare's foot? Who would still be pale,

But that the dread of rouging badly done—

Of paint put on with ineffective touch,

And clumsily withal—puzzles the will,

And makes us rather wear the hue

We have

Than rouge a new one when we scarce know how?

Thus does self-consciousness and fear

Of ridicule

Make cowards of some of us, though not of all;

And keep us, in the midst of painted blushes,

Still sicklied o'er with a pale cast of check.

—London Truth.

## Passengers by the Australia.

The following persons have been booked at the office of W. G. Irwin & Co., to leave on the Australia next Wednesday:

Mrs. F. B. McStocker, Miss Marie Afong, Mrs. C. Afong and 2 children, Mrs. Dr. Magonder and 2 children and maid, Miss Barnes, Mrs. T. S. Douglas, Miss R. Nott, Miss van Anglen, Mrs. Breinig, E. C. Bond, H. R. Macfarlane, Jr., James A. Wilder, S. E. Damon, Mr. and Mrs. W. Gooder, Miss Vollertsen, A. E. Cooke, Mrs. Hoffe, 2 children and maid, Miss Jones, C. A. Mackintosh, W. J. Cesnar, Miss Chaffee, George C. Beckley, A. Jaeger and wife, Mrs. C. von Mengersen, F. F. Maltby, Mrs. J. A. Lowell and child, Mrs. F. M. Hatch, R. W. McChesney and wife.

Mr. W. H. Chambliss, who has been spending some time in this city, will probably be a passenger by the China for Yokohama.

## THE NATIONAL BAND.

## Mr. Hobron Points Out the Benefits of Going to Chicago.

MR. EDITOR: This evening's Bulletin contained an anonymous letter that was written with a view of discouraging the band boys' last hope of going to the World's Fair.

The letter in question needs no reply, but its intentional misstatements should not pass uncorrected.

In the first place the native band boys have long cherished the hope of visiting Chicago and showing Americans what Hawaiians can do. Several agents have journeyed to San Francisco on their behalf to arrange a tour to Chicago, but have met with no success. Many of the members have been out of employment, and I understand some are yet idle owing to the dull times existing here.

The Cyclorama Company now makes them a business proposition to take the entire band to Chicago and assume all financial obligations, and after the World's Fair is over to return them to Honolulu. It gives the boys an opportunity to see the great exposition without any expense to themselves, and a chance to make some money and distinguish themselves as Hawaiians.

The Cyclorama Company does not expect to make "barrels of money" out of the boys other than being benefited by their presence at the cyclorama building when no pay engagements are available. The company in carrying out the contract will be responsible for a large sum and should the pay concerns prove scarce the cyclorama will sustain the loss. All donations which are given are for defraying the traveling expenses of the band and any surplus will go to the benefit of the boys. The receipts of pay engagements are to be divided as follows: 25 per cent. to the band and 75 per cent. to go towards liquidating their expenses. After the expenses are satisfied the entire proceeds of pay engagements go to the band.

Everything is open and above board in the proposition and it rests with the members of the band whether they will see the World's Fair and make themselves famous or remain at home in obscurity.

People in San Francisco have signified their willingness in assisting the band by cash contributions: many in Honolulu have done so also. The steamship company will convey them to San Francisco and return free of cost, and the Occidental hotel in San Francisco will care for them while there without charge.

Unnecessary delay on the part of the band will handicap those who have the carrying out of the financial and business arrangements and will end in the boys remaining at home.

T. W. HOBRON.  
August 7, 1893.

## Hume to be Extradited.

SACRAMENTO, August 19.—Extradition papers have been issued and forwarded to President Cleveland for the return to San Francisco of Paul Hume, who was indicted by the grand jury of that city for embezzling \$3000 while a railroad messenger for Wells, Fargo & Company, between Redding and San Francisco. Hume went to Australia where he was arrested. It is to bring him back from that country that the extradition papers were issued. [Hume is the young man mentioned in these columns a few days ago as being arrested in Brisbane, and noting the departure of Detective Tucker to bring him back.]

## Valuable Reference Books.

There have been received at this office from the United States hydrographic office at Washington, D. C., copies of the "Report of the U. S. Nicaragua Surveying Party," 1885; "Telegraph Cable between the United States and the Hawaiian Islands," under date of 1892; "Submarine Cables," No. 103, dated 1892. The thanks of this office are due the United States hydrographic office for copies of these valuable works.

## Electric Light Poles.

The 300 poles for the Hawaiian Electric Light Company that came by the schooner Alice Cooke will be landed today, and afterwards carted to the new fish market shed on the Esplanade to be planed and painted. The length of the poles range from thirty to fifty feet.

## Thurston and the Flag.

During the recent visit of Minister L. A. Thurston to San Francisco, the Hawaiian flag was hoisted over the Occidental hotel.

## New Advertisements.

## More Bicycles Arrived!

## This Time for Boys and Girls

## 16 Ball Bearing Bicycles

## CUSHION TIRES

—AT—

\$40, \$50, \$60, \$70

ARRIVED PER S. S. AUSTRALIA.

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GEO. H. PARIS.

3451-54 AGENT.

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LONDON.

Capital. \$ 5,000,000

Assets. \$ 3,000,000

Having been appointed Agents of the above Company we are now ready to effect Insurance at the lowest rates of premium.

H. W. SCHMIDT & SONS.

## Notice.

NOTICE IS HEREBY GIVEN THAT I have purchased on the 15th of August, 1888, the share of my partner Wong Hung in the firm of W. Ahana, doing a Tailoring business on Nuanuan street, No. 323, and have carried on the business since solely for my account.

WONG AH WO.

Honolulu, August 24, 1893.

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## Notice.

NOTICE IS HEREBY GIVEN that the business hitherto carried on under the name of W. Ahana or Wong Hung at No. 323, Nuanuan street, in Honolulu, Tailor shop, has been transferred and sold to Wong Ah Wo, and that he has been the sole owner and is alone responsible for all debts since 1889 and that the use of the name W. Ahana on bills and as a business advertisement is wholly without authority.

W. AHANA.

Honolulu, August 23, 1893.

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## GEAS. SHAW &amp; CO.

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Take notice that the

SHIP HULN MEWER

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